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O066: Thermal disinfection of bedpans: European ISO 15883-3 guideline requirements are insufficient to ensure elimination of ARE and OXA-48 outbreak-strains

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Introduction

During 2012, our hospital was faced with a vancomycin-resistant *Enterococcus faecium* (VRE) outbreak. Washer-disinfectors are used for the cleaning and thermal disinfection of bedpans. The European guideline NEN-ISO 15883-3 (ISO) states that washer- disinfectors have to achieve a minimum A_0 value of 60 for appropriate disinfection of bedpans (≈ 80 °C for 60 seconds or 90 °C for 6 seconds). However, previous data have shown that some *E. faecium* strains survive 60 seconds at 80 °C. Following ISO, the A_0 measurement should include a cold (a minimum interval of 60 minutes since the machine was last used) and hot start.

Objectives

We determining the A_0 value of the VRE outbreak-strain and the outbreak-strain of the OXA-48 *K.pneumoniae* outbreak in another Dutch hospital during 2011. Moreover the impact of a cold start measurement on the A_0 value was evaluated.

Methods

The minimum A_0 value that results in the killing of all isolates was determined for both strains. Bacterial suspensions were heated at 65, 75 and 80 °C and samples for viable counts were obtained after 1,2,3 and 10 minutes at each temperature. VRE PCR and cultures were performed on bedpan swabs after disinfection; hot and cold start measurements were compared.

Results

Adequate killing required a minimum A_0 value of 180 for the VRE outbreak strain and 120 for the OXA-48 *K.pneumoniae*. The cold start resulted in a 30% lower A_0 value, than the hot start. All washer-disinfectors in our hospital functioned in agreement with the European guideline, although the lowest A_0 value was 73, only just above 60. Swabs taken from bedpans processed in these washers with low A_0 values , were VRE-positive by PCR and cultures.

Conclusion

Both outbreak strains survived the A_0 value of 60 required in the ISO. VRE were identified by PCR as well as cultures of bedpans that had been disinfected by these washer-disinfector. We suggest to increase the minimal acceptable A_0 value of washer-disinfectors to at least 180. Furthermore, the cold-start is needed for adequate A_0-value measurement.

Disclosure of interest

None declared.

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